ZOOLOGY.—*A new nereid worm from Warm Mineral Springs, Fla., with a review of the genus* Nicon *Kinberg.*[1] Olga Hartman, Allan Hancock Foundation, University of Southern California. (Communicated by Fenner A. Chace, Jr.)

The discovery of a unique fauna in Warm Mineral Springs, Sarasota County, Fla., by Dr. James Lackey, led to the find of a small nereid which exists in flourishing populations in an environment which is unusual in its high temperatures and its concentrations of certain minerals. The species is here newly described and its affinities with other species of the genus related. The type is deposited in the United States National Museum (no. 29627).

Family Nereidae

Genus **Nicon** Kinberg, 1866

Nicon lackeyi. n. sp.

Figs. 1–5

Ovigerous adults measure 5 to 6 mm long and are 0.3 mm wide without parapodia; the body consists of 33 or fewer setigerous segments. The prostomium is trapezoidal in outline, about as long as wide and has a pair of cirriform frontal antennae, each about as long as the prostomial length. The four eyes are moderately large, reddish in color, and subcircular in outline; they are located on the posterior third of the prostomium, with the two of a side nearly touching and widely separated from those of the opposite side. Palpi are large and project in front of the prostomium (Fig. 1) or they are directed ventrally and best seen from below.

The pharynx, seen only by dissection and in cleared whole mounts, is believed to lack paragnaths or papillae, as characteristic of the genus *Nicon* Kinberg. The paired maxillae or jaws are very delicate, translucent pale yellow in color, with the two of a side similar; each is longer than wide and broadest at the base, tapering to a slender, distally recurved tip and six lateral, subequal, oblique teeth along the cutting edge (Fig. 3). The teeth arise from an elevated ridge and are difficult to see unless the jaw piece is rolled on edge.

The first visible segment is very short and bears the four pairs of peristomial cirri. The dorsal and ventral cirri of the first pair are short and the first are inflated in their basal half (Fig. 1). The cirri of the posterior pairs are slenderer and taper distally. The longest, or second dorsal cirri, are about as long as the first seven setigerous segments.

The second visible segment is the first setigerous. The parapodia of this and the second segment are small and uniramous; they lack dorsal cirri and notopodia. From the third segment the parapodia are larger and conspicuous; they have dorsal cirri and well-developed biramous parts. Typical parapodia have well-developed, laterally projecting lobes with neuropodia somewhat the larger; their lengths increase slightly in more posterior segments. The dorsal cirrus, or cirrophore, is long, tapers distally, and merges directly into the dorsal cirrus (Fig. 2) so that the fusion of the two parts is not always clearly made out. The distal end of the dorsal cirrus extends obliquely out to the ends of the long setae.

The notoacicular lobe of anterior segments has long superior and inferior lobes; the upper one is postacicular and the lower is preacicular. In anterior segments these two lobes are about equally long. In middle segments the upper lobe diminishes in length and in posterior segments both lobes decrease gradually in size so as to be absent far back.

Notopodia are distally oblique, with the longest edge below. They are provided with single pale yellow acicula and 7 to 12 composite spinigerous setae with homogomph articulation. Neuropodia resemble notopodia but are distally oblique in the opposite direction, with the superior edge the longer one. They also have single embedded yellow acicula, completely covered or the distal tip may emerge for a short distance just below the uppermost part of the lobe.

Neuropodial setae are of three kinds. The uppermost are homogomph spinigers, like those in notopodia. They are accompanied by two or a few heterogomph spinigers with cutting edge conspicuously serrated (Fig. 5). The latter are shorter than the others and easily overlooked. Subacicular setae are heterogomph falcigers in which the length of the appendage varies from long to short, or 4 to 10 times as long as wide;

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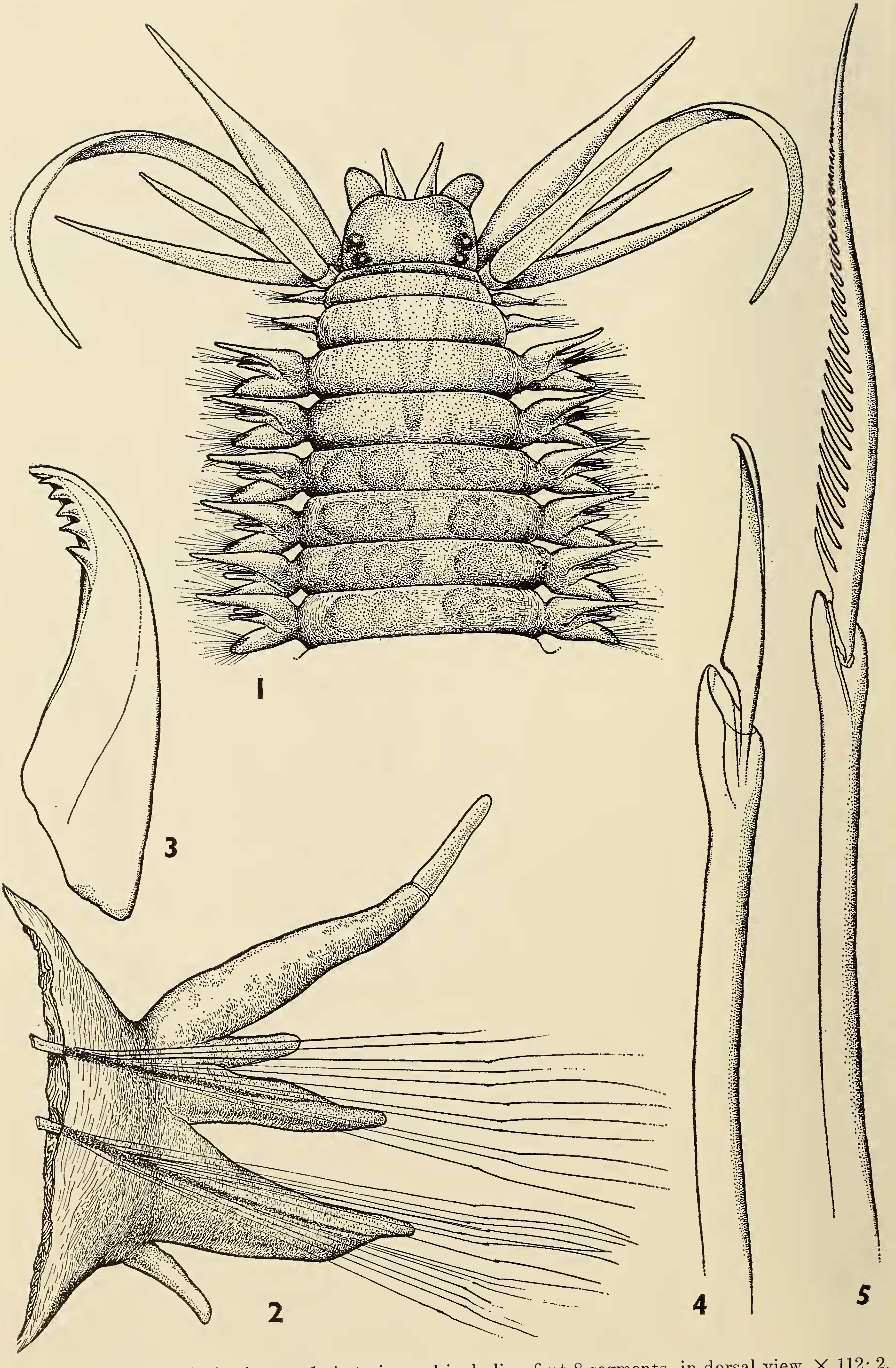

FIGS. 1–5.—*Nicon lackeyi*, n.sp.: 1, Anterior end including first 8 segments, in dorsal view, × 112; 2, twelfth parapodium in anterior view, × 635; 3, maxilla dissected from retracted pharynx, × 1,400; 4, inferior heterogomph falciger from a median parapodium, × 1,210; 5, neuropodial heterogomph spiniger with serrated edge, × 1,210.

the shortest are in inferiormost positions. The cutting edge is smooth (Fig. 4). A typical or median parapodium has 7 to 12 spinigerous notosetae, 7 homogomph neurosetae, 2 heterogomph spingers, and about 7 heterogomph falcigers.

The anal end terminates in a pair of short, triangular ventral lobes at the sides of the anal pore, and a pair of long, laterally directed cirriform processes, their length about that of the last six segments.

Ova are giant in size and few in number, with at most four to six in a segment, present in most of the body behind the pharyngeal region (Fig. 1). Development is probably direct, without epitoky. Color in life is dusky overlain by a greenish tinge, with most pigment concentrated at the sides of the prostomium and in the segmental grooves.

The specific name is for Dr. James Lackey, to whom I am indebted for the collection and the physical data (below). Dr. Lackey was able to collect living adult stages and kept them alive in the laboratory where they continued to give rise to young stages.

Locality.—"About 2 miles south of the bridge where U. S. highway 41 crosses the Myakka River in Sarasota County, in a large first magnitude spring, with a flow of 7,000,000 to 9,000,000 gallons per day of water which has a constant temperature of 86° F., contains no dissolved oxygen, but does contain 0.162 parts per million of hydrogen sulphide. The spring also contains about 17,000 ppm of dissolved solids, principally chlorides, sodium, and potassium, and has a pH at 7.2 ± 0.2. These features are constant." These data are taken from a report by Dr. Lackey to the Florida Academy of Sciences presented at a meeting on December 6, 1957.

Genus **Nicon** Kinberg, 1866, emended Hartman, 1948

Type, *Nicon pictus* Kinberg, 1866.

This is a small genus of Nereidae, characterized for having biramous parapodia as in *Nereis* Linnaeus but with a proboscis lacking paragnaths or papillae. Notopodia are typically provided with spinigerous setae only. Neuropodia have spinigers and falcigers. Most known species are small to moderately large. Development is direct or accompanied by epitoky. Six of the ten known species are from the Western Hemisphere; the others are from the Southern Hemisphere, in extra-American areas.

The following species are regarded congeneric:

Nicon aestuariensis Knox, 1951, from New Zealand.
Nicon ehlersi Hartman, 1953, from Falkland Islands in deep water.
Nicon lackeyi, new species, from Warm Mineral Springs, Florida.
Nicon maculata Kinberg, 1866, from off La Plata, Argentina.
Nicon mexicana (Treadwell) 1942, as *Leptonereis mexicana,* from western Mexico.
Nicon moniloceras (Hartman) 1940, as *Leptonereis glauca moniloceras* from Santa Catalina Island, California and western Mexico. New combination.
Nicon pictus Kinberg, 1866, off Brazil in 20–30 fms.
Nicon punctata (Wesenberg-Lund) 1949, as *Leptonereis punctata,* from the Gulf of Iran. New combination.
Nicon tahitanus Kinberg, 1866, from Tahiti.
Nicon virgini Kinberg, 1866, from the Strait of Magellan.

KEY TO SPECIES OF NICON KINBERG

1. Neuropodia provided with some simple brown falcigers........................*N. punctata*
   Neuropodia without simple falcigers........ 2
2. Notopodia with falcigers in addition to spinigers...........................*N. tahitanus*
   Notopodia with spinigers only.............. 3
3. Peristomial cirri and prostomial antennae distally articled.................*N. moniloceras*
   Peristomial cirri and antennae not articled.. 4
4. Peristomial cirri very short; becoming epitokous *N. mexicana*
   Peristomial cirri moderately long; development direct or becoming epitokous............. 5
5. Dorsal cirri inserted at terminal end of dorsal lobe............................*N. lackeyi*
   Dorsal cirri inserted at or near superior base of dorsal lobe........................... 6
6. Posterior neuropodia provided with 3 or 4 thick-shafted heterogomph falcigers.....*N. ehlersi*
   Posterior neuropodia without such falcigers.. 7
7. With a long lobe behind the neuroaciculum, resembles one of main parapodial lobes and increases in size posteriorly........*N. pictus*
   Without such long lobe behind the neuroaciculum 8
8. In the posterior half of the body, the middle parapodial lobe is larger and longer than the dorsal lobe.....................*N. maculata*
   In the anterior part of the body the dorsal lobe is larger and broader than other lobes *N. aestuariensis*

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Milton Abramowitz

With the sudden death of Milton Abramowitz of a heart attack on July 5, 1958, a great loss was felt by family, friends, community, and scientific world. His life was a marked departure from the so-called ivy-tower existence.

Born in 1915 to Phillip and Rose Abramowitz, he attended preparatory schools in New York. His bachelor and master's degrees as well as a gold medal for excellence in mathematics were awarded by Brooklyn College. At its inception, he started work with the Mathematical Tables Project, the scientific program of which was sponsored by the National Bureau of Standards, and at night continued his studies for his doctorate, which was granted in 1948 by New York University. As a member of the Mathematical Tables Project he saw a total of about 32 volumes published as an aid to the scientific world. During this time, he became interested in the application of commercial machines of every type to scientific computing. This interest did not waver in his lifetime. Starting with adding and accounting machines then available, he became interested in the application of the most advanced electronic digital computing machines. At the time of his death he was chief of the Computation Laboratory of the National Bureau of Standards, eagerly awaiting newer and faster machines.

In addition to the volumes published under the auspices of the Mathematical Table Project, he published many scientific papers and was influential in the publication of a large number of the 52 volumes of the Applied Mathematics Series, of the National Bureau of Standards. During the war years, he was on loan to the U. S. Navy Hydrographic office. As a result of his efforts and his interest in machine computation, the many volumes of Loran tables made their appearance. For his work, he was awarded the Meritorious Civilian Service Award by the United States Navy.

While working, he continued his teaching activities as a member of the staff of Brooklyn College and on his transfer to Washington in 1950, on the staff of the American University and the University of Maryland. His students could be found conferring with him at all hours of the day or night. The door to his office was open at all times to all those with a problem to solve. His efforts were unsparing in aiding students, colleagues and staff members. He encouraged continued schooling, obtaining of advanced degrees and the writing of scientific papers. His knowledge was eagerly imparted to all .

With all this scientific activity, he found time for marriage and family life. He was the devoted husband of Lillian Abramowitz and proud father of Barbara and Edward. Evenings, he could be found enjoying the latest plays, or playing chess or pingpong, in addition to overseeing the children's homework and caring for their fish, parakeet, duck, or neighbor's dog. His sports interests covered football, basketball, and baseball. He was an avid reader of historical works, poetry, and biographies as well as detective stories and westerns. His interest in gardening extended from vegetables to perennials. Community projects found him eager to lend a helping hand—bond drives, blood donations, scout activities, parent-teacher meetings, neighborhood improvements, religious education of children. Even do-it-yourself kits found their way into his home.

He possessed an amazingly retentive memory not only for scientific facts but also for people and places. His early interest in mathematical tables and special functions of mathematics and physics led him to the preparation of a handbook of mathematical functions, under the sponsorship of the National Science Foundation. As planned under his direction, the volume is to contain about 28 chapters with formulas, tables, and graphs of the elementary transcendental functions as well as the higher functions. He himself had already prepared the chapters on Struve functions, Coulomb wave functions, and elementary analytical methods, and was working on the chapter of spheroidal wave functions at the time of his death. He had contributed to the planning of almost all the other chapters in the volume. He felt that the wide dissemination of such a handbook among high school and college students would inspire many to scientific careers as well as aid those already working in this field.

Let us hope that his endeavors will bear fruit manyfold.